OLD DOMINION UNIVERSITY

CYSE 301 CYBERSECURITY TECHNIQUES AND OPERATIONS

Assignment #6 Digital Steganography

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TASK A

Explain what steganography is and how it differs from cryptography?

Steganography is concealing information behind something, such as an image file, so that it's not visible. It's different from cryptography because it doesn't conceal the contents of a message but instead hides the information within another medium so that its presence is unknown.

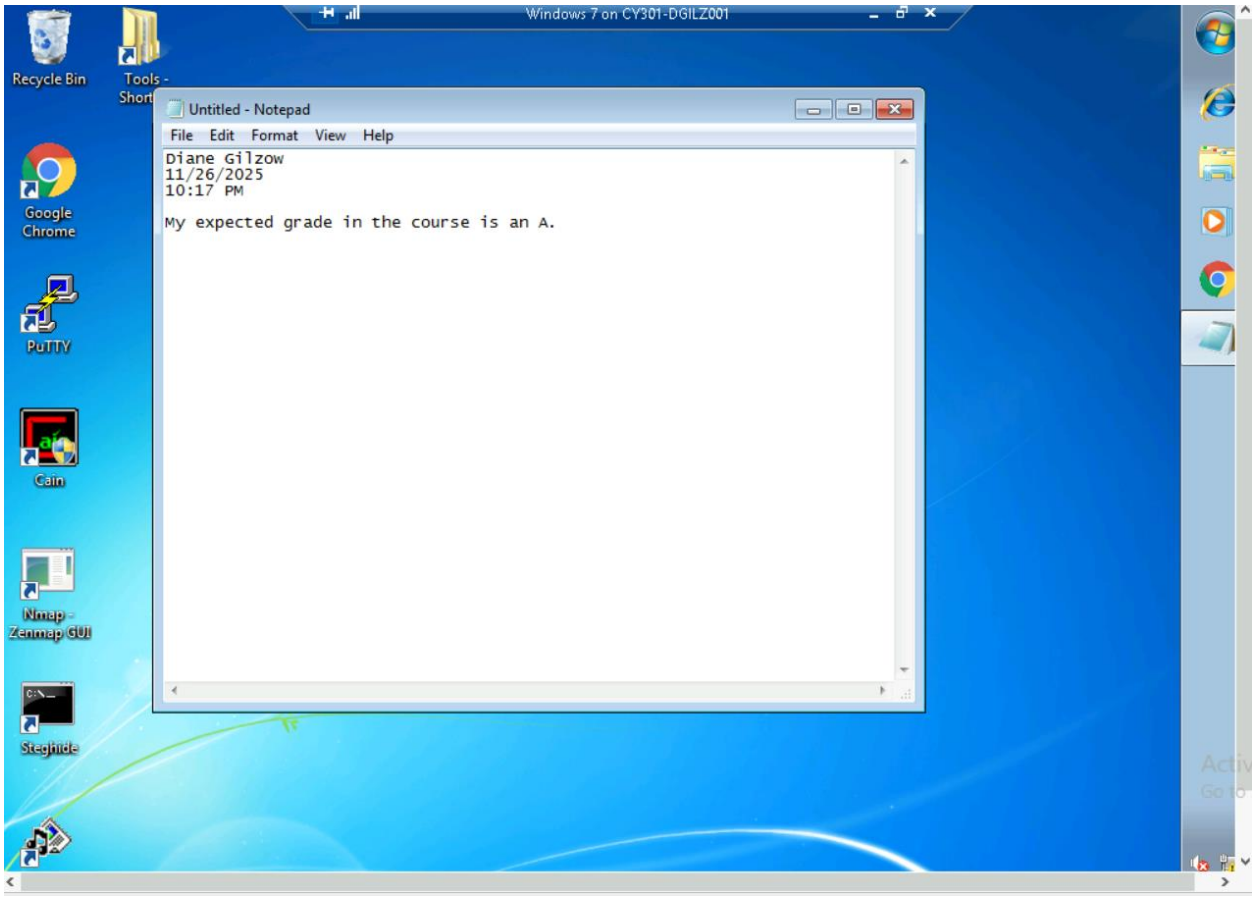
TASK B: LAB PREPARATION

- Access Windows7 VM in CCIA to open steghide command prompt (available in windows 7 Desktop)

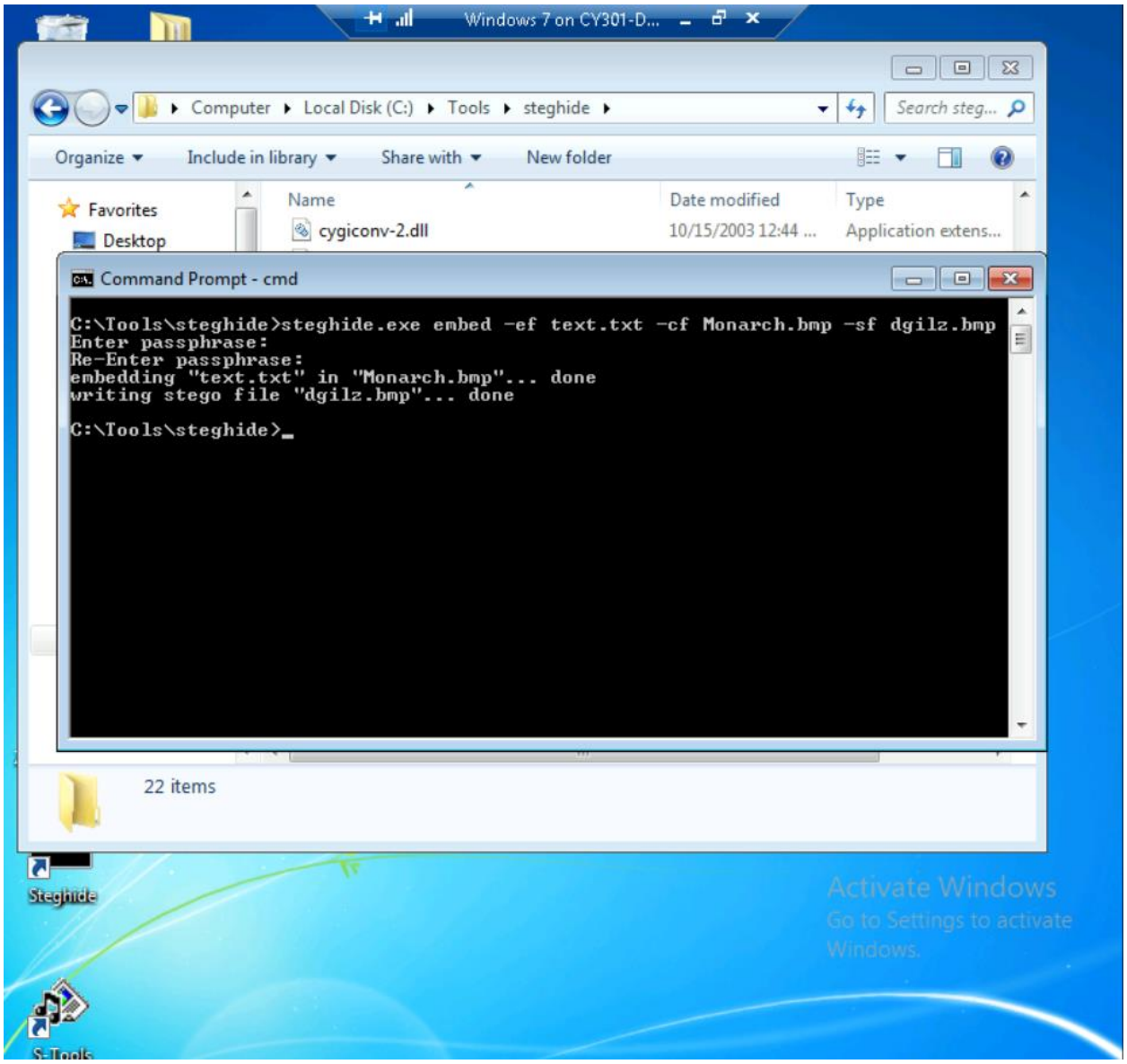
You need to use **steghide**, not s-tool to complete this assignment.

You may refer to the lecture for Module-6 to learn about using steghide tool. **Please submit the screenshot as a proof for all the steps/commands**

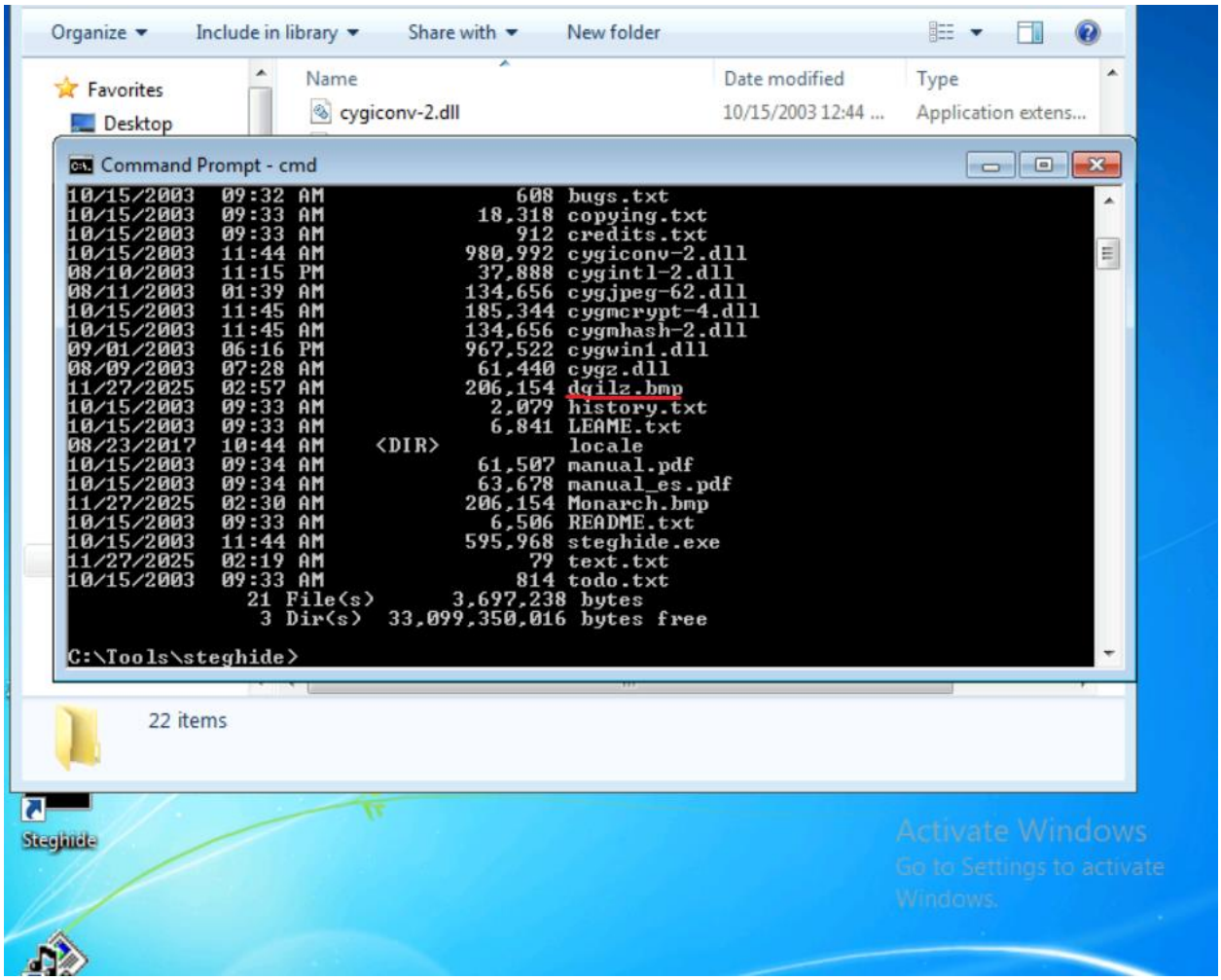
1. Create a text file containing the answers to the following questions:
   - What are your name and current date and timestamp?
   - What is your expected grade in this course?



2. Complete the following tasks using steghide command:
   a. Use **steghide** to hide this text file in the cover image, "Monarch.bmp.", which you can find in Windows7 under VMShare folder --> Lab-Resources --> Module 6.
   b. Use your **Midas ID** (all lowercase) as "YourName.bmp" for example "**svatsa.bmp"** as the name of the STEGO file.
   c. Use your own **UIN** (for example, 01000123) as the password.
   d. List the contents of the current directory/folder to verify if the stego file is created or not.

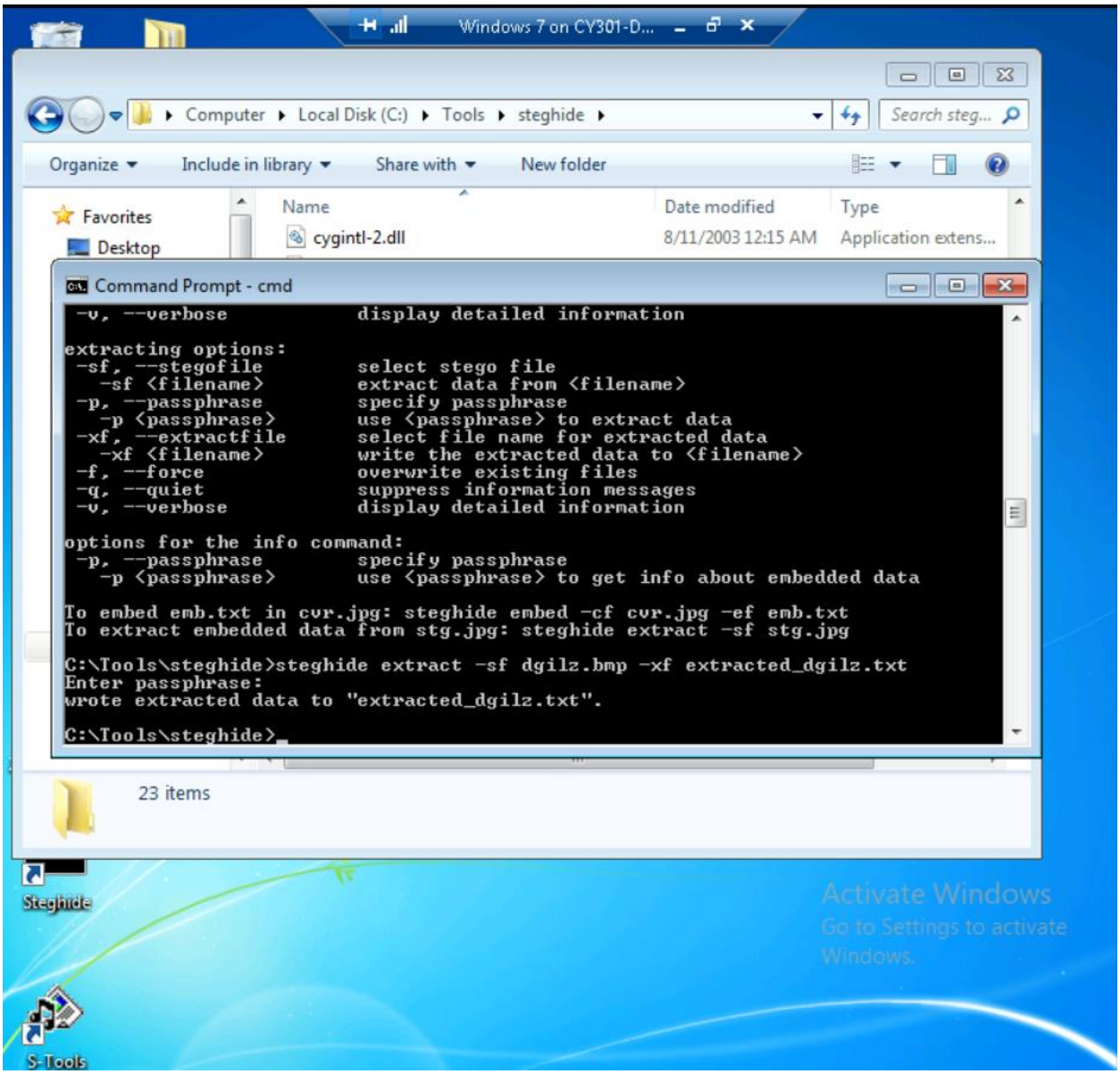


Creating dgilz.bmp



dgilz.bmp within the steghide folder

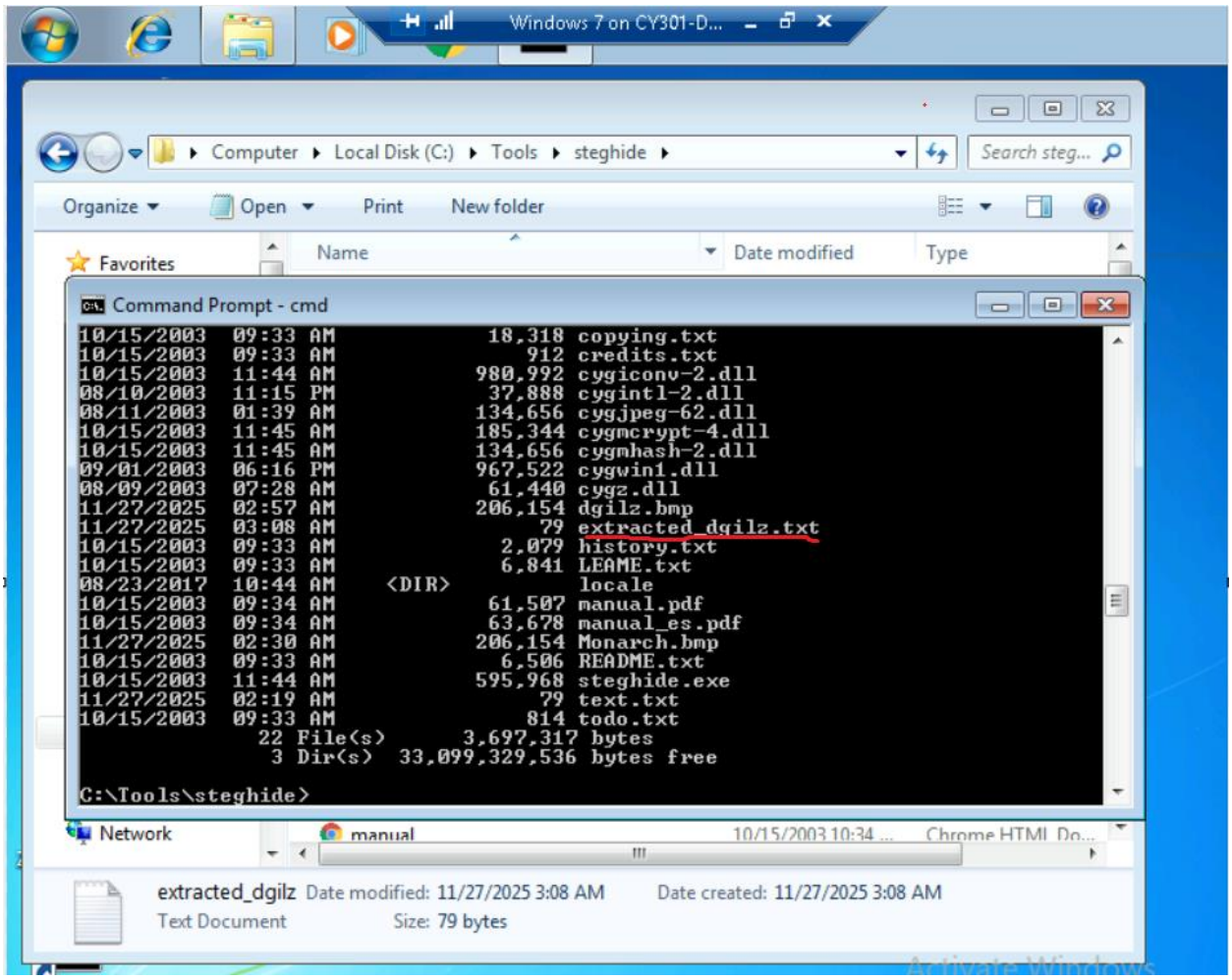
3. Extract the secret message by executing steghide command and save in a file named “extracted_YourName.txt”.



Used the command **steghide extract –sf dgilz.bmp -xf extracted_dgilz.txt** to extract the message and saved it to extracted_dgilz.txt.

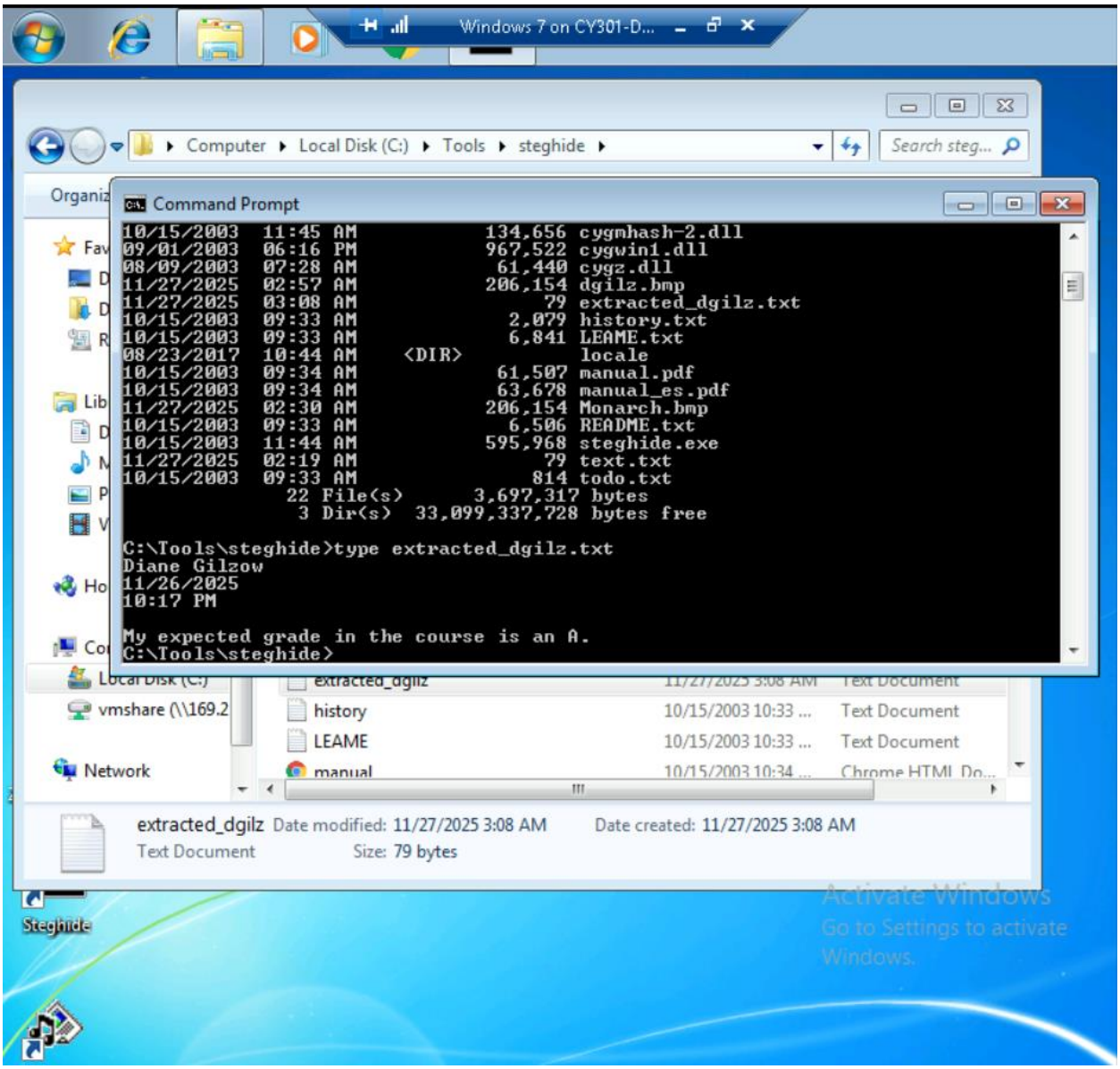
4. Execute the command to list the contents of the current directory in CMD to verify whether the extracted textfile with secret message has been extracted or not.

   You should see textfile there because it was hidden in the image file and appeared after extracting the image file in the previous step.



Used dir command to list the contents of the steghide folder, with extracted_dgilz.txt appearing.

5. Execute the command to display the contents of the extracted file you revealed.



Used the type command to show the contents of extracted_dgilz.txt, which shows the message I created earlier.